



DECUS

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DECUS NO.	8-540B
TITLE	BPRINT
AUTHOR	Richard Rubinstein
COMPANY	University of California Irvine, California
DATE	March 30, 1972
SOURCE LANGUAGE	PAL-8

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BPRINT

DECUS Program Library Write-up

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BPRINT is a subroutine which enables a user's main program to emboss Braille on a modified ASR33 teletype. A complete one-cell Braille representation of the standard teletype character set is used, and Braille output codes may be modified easily if the user so desires.

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/BRAILLE PRINT PROGRAM
/RICHARD RUBINSTEIN
/UNIVERSITY OF CALIFORNIA, IRVINE
/NOVEMBER, 1971
/
/THIS ROUTINE PROVIDES BRAILLE PRINTOUT
/ON CONSOLE TTY WITH BRAILLE MODIFICATIONS
/
/ON ENTRY, AC=ASCII CHAR TO BE BRAILLED
/ROUTINE PRESERVES MQ BUT NOT THE LINK
/RETURNS WITH AC=0
/
/PRIOR TO FIRST CALL, TTY MUST BE INITIALIZED WITH A TFL INSTRUCTION
/
/ALL NON-GRAPHIC CHARS, EXCEPT (CR) ARE TRANSMITTED TO TELETYPE, AS IS.
/(CR) GENERATES (CR)(LF)(LF)
/EXTRA (CR)(LF)(LF)(LF) SEQUENCES INSERTED AS NECESSARY IN LONG LINES
/
/INTERRUPT IS NOT MANIPULATED
/
6040 TFL= 6040
7325 NL0003= 7325
```

00200	0000	BPRINT, 0			
00201	0362	AND	N177		/ELIMINATE PARITY
00202	3375	DCA	CHAR		/SAVE CH, AC=0
00203	1375	TAD	CHAR		/GET CHAR
00204	7041	CIA			
00205	1361	TAD	NCR		/IS IT (CR)?
00206	7650	SNA CLA			
00207	5225	JMP	CR		
/					
00210	1375	B1, TAD	CHAR		/GET CHAR
00211	1364	TAD	M40		/CHAR < 40?
00212	7710	SPA CLA			
00213	5220	JMP	XMIT		/YES--XMIT IT
00214	1375	TAD	CHAR		/NO--GET CHAR
00215	1367	TAD	M137		/CHAR > 137?
00216	7750	SPA SNA CLA			
00217	5236	JMP	B2		/NO--TRANSLATE IT
/					
00220	1375	XMIT, TAD	CHAR		/GET CHAR
00221	4303	JMS	T1		/XMIT IT
00222	5600	JMP I	BPRINT		/RETURN
/					
00223	1363	XCR, TAD	NLF		/XMIT (LF) THEN (CR) SEQUENCE
00224	4303	JMS	T1		
00225	1361	CR, TAD	NCR		/XMIT (CR) SEQUENCE
00226	4303	JMS	T1		
00227	1363	TAD	NLF		
00230	4303	JMS	T1		
00231	1363	TAD	NLF		
00232	4303	JMS	T1		
00233	1365	TAD	MD72		/RESET LINE CHAR COUNT
00234	3376	DCA	NCHAR		
00235	5600	JMP I	BPRINT		/RETURN
/CHAR IN RANGE--XLATE IT					
00236	1375	B2, TAD	CHAR		/GET CH
00237	1364	TAD	M40		/SUBTRACT 40
00240	0366	AND	N77		/TRIM TO 6 BITS
00241	7110	CLL RAR			/TABLE DISPLACEMENT
00242	1372	TAD	ATTAB		
00243	3374	DCA	TEMP		
00244	1774	TAD I	TEMP		
00245	7430	SZL			/L=0 => LEFT HALF
00246	5252	JMP	B3		/RIGHT HALF--OK
00247	7012	RTR			/GET LEFT HALF
00250	7012	RTR			
00251	7012	RTR			
00252	0366	B3, AND	N77		/ISOLATE RESULT
00253	3375	DCA	CHAR		/SAVE
00254	1375	TAD	CHAR		/TABLE ENTRY
00255	7012	RTR			
00256	7010	RAR			
00257	0371	AND	N7		/1ST CHAR
00260	1373	TAD	ACTAB		
00261	3374	DCA	TEMP		/CTAB ADDR
00262	1774	TAD I	TEMP		
00263	4303	JMS	T1		
00264	1375	TAD	CHAR		
00265	0371	AND	N7		/2ND CHAR

00266	1373	TAD	ACTAB	
00267	3374	DCA	TEMP	
00270	1774	TAD I	TEMP	
00271	4303	JMS	T1	
00272	7325	NL0003		/INCR LINE CHAR COUNT BY 3
00273	1376	TAD	NCHAR	
00274	3376	DCA	NCHAR	
00275	1376	TAD	NCHAR	
00276	7650	SNA CLA		/LINE FULL?
00277	5223	JMP	XCR	/YES--GEN (LF)(CR)(LF)(LF)
00300	1370	TAD	NSP	/NO==PROCEED
00301	4303	JMS	T1	/XMIT (SPACE)
00302	5600	JMP I	BPRINT	/RETURN

00303	0000	T1,	0	/TYPE ONE CHAR
00304	6041	TSF		/TTY PTR READY?
00305	5304	JMP	,-1	/NO==WAIT
00306	6046	TLS		/XMIT CHAR
00307	7200	CLA		
00310	5703	JMP I	T1	/RETURN

/TRANSLATION TABLE

/AS READ, VALUE BRAILLE "BITS," FROM TOP, 4 2 1

00311	0075	TTAB,	0075	/(SPACE),!
00312	0217		0217	/",#
00313	4335		4335	/(DOLLAR),%
00314	4710		4710	/&,'
00315	7337		7337	/(,)
00316	0415		0415	/*,+
00317	0111		0111	/(COMMA),-
00320	0514		0514	/.,/
00321	1320		1320	/0,1
00322	3022		3022	/2,3
00323	2321		2321	/4,5
00324	3233		3233	/6,7
00325	3112		3112	/8,9
00326	0603		0603	/:,;
00327	6163		6163	/<=
00330	4516		4516	/>?
00331	6540		6540	/@,A
00332	6044		6044	/B,C
00333	4642		4642	/D,E
00334	6466		6466	/F,G
00335	6224		6224	/H,I
00336	2650		2650	/J,K
00337	7054		7054	/L,M
00340	5652		5652	/N,O
00341	7476		7476	/P,Q
00342	7234		7234	/R,S
00343	3651		3651	/T,U
00344	7127		7127	/V,W
00345	5557		5557	/X,Y
00346	5325		5325	/Z,[
00347	4167		4167	/\,]
00350	0777		0777	/+,-

```

/
/BRAILLE EQUIVALENT CHARACTERS
00351 0240 CTAB, 240 / (SPACE) 0
00352 0305 305 /E 1
00353 0316 316 /N 2
00354 0301 301 /A 3
00355 0314 314 /L 4
00356 0303 303 /C 5
00357 0307 307 /G 6
00360 0310 310 /H 7
00361 0015 NCR, 15 / (CR), PARITY TRIMMED
00362 0177 N177, 177
00363 0212 NLF, 212 / (LF)
00364 7740 M40, -40
00365 7670 MD72, -110 /RESET VAL FOR NCHAR =-72(10)
00366 0077 N77, 77
00367 7641 M137, -137
00370 0240 NSP, 240 /ASCII SPACE
00371 0007 N7, 7
00372 0311 ATTAB, TTAB
00373 0351 ACTAB, CTAB
0374 TEMP= ,
0375 CHAR= ,+1
0376 NCHAR= ,+2
$

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ACTAB	0373
ATTAB	0372
BPRINT	0200
B1	0210
B2	0236
B3	0252
CHAR	0375
CR	0225
CTAB	0351
MD72	0365
M137	0367
M40	0364
NCHAR	0376
NCR	0361
NLF	0363
NL0003	7325
NSP	0370
N177	0362
N7	0371
N77	0366
TEMP	0374
TFL	6040
TTAB	0311
T1	0303
XCR	0223
XMIT	0220

